End of Result Set

Print Generate Collection

L2: Entry 1 of 1

File: USPT

Sep 28, 1999

US-PAT-NO: 5958751

DOCUMENT-IDENTIFIER: US 5958751 A

TITLE: .alpha.-galactosidase

DATE-ISSUED: September 28, 1999

INVENTOR-INFORMATION:

NAME

CITY

STATE

ZIP CODE

COUNTRY

Murphy; Dennis

Paoli

PA

Reid; John

Bryn Mawr

PA

US-CL-CURRENT: $\underline{435}/\underline{208}$; $\underline{435}/\underline{252.3}$, $\underline{435}/\underline{320.1}$, $\underline{435}/\underline{325}$, $\underline{435}/\underline{419}$, $\underline{536}/\underline{23.2}$, $\underline{536}/\underline{24.32}$

CLAIMS:

What is claimed is:

- 1. A substantially purified enzyme selected from the group consisting of:
- (a) an enzyme comprising the amino acid sequence as set forth in SEQ ID NO:4; and
- (b) an enzyme comprising 30 contiguous amino acids from SEQ ID NO:4 wherein said enzyme has .alpha.-galactosidase activity.
- 2. A method for hydrolyzing .alpha.-galactose bonds comprising:

contacting a compound having .alpha.-galactose bonds with an effective amount of a substantially purified enzyme having the amino acid sequence set forth in SEQ ID NO:4.

- 3. An isolated polynucleotide encoding the amino acid sequence as set forth in SEQ ID NO:4.
- 4. An isolated polynucleotide encoding an enzyme having .alpha.-galactosidase activity selected from the group consisting of:
- a) SEQ ID NO:3;
- b) SEQ ID NO:3, wherein T can also be U;
- c) nucleic acid sequences complementary to SEQ ID NO:3; and
- a polynucleotide encoding an enzyme comprising 30 contiguous amino acids from SEQ ID NO:4 wherein said enzyme has .alpha.-galactosidase activity.
- 5. An expression vector containing a polynucleotide of claim 3.
- 6. The expression vector of claim 5, wherein the vector is a plasmid.
- 7. The expression vector of claim 5, wherein the vector is a viral vector.

- 8. The polynucleotide of claim 3, wherein the polynucleotide sequence is from Thermococcus.
- 9. A host cell transformed with the expression vector of claim 5.
- 10. The host cell of claim 9, wherein the cell is a eukaryotic cell.
- 11. The host cell of claim 9, wherein the cell is a prokaryotic cell.
- 12. A method of producing an .alpha.-galactosidase polypeptide comprising:
- a) transforming a host cell with a polynucleotide of claim 3;
- b) expressing the polynucleotide; and
- c) recovering the .alpha.-galactosidase polypeptide.
- 13. The method of claim 12, wherein the host cell is a prokaryotic cell.
- 14. The method of claim 12, wherein the host cell is a eukaryotic cell.
- 15. A substantially purified polypeptide having the amino acid sequences as set forth in SEQ ID NO:4.

2 of 2